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ABSTRACT

Designed to create an awareness of health problems among children in Third World settings, the board game uses simulation and role playing to help participants identify the symptoms and consequences of six childhood diseases preventable by vaccination: measles, whooping cough, tetanus, diphtheria, polio, and tuberculosis. The game also helps players understand the importance of vaccinations, malnutrition, and adequate diets for children, as well as the causes and effects of diarrhea and the treatment of dehydration. Consisting of a game board, drawing cards, markers, and a die or spinner, the game is a vehicle for nonformal education through discussion as players move their markers around the board. Although it was developed specifically for the rural women served by the government health center in Ciudad Vieja, Guatemala, educators can easily adapt the game to fit the needs and interests of different groups in different areas. A sample game board, reproducible board components and drawing cards, a content outline, and guidelines for playing are included, along with suggestions for encouraging discussion and role playing. (SB)

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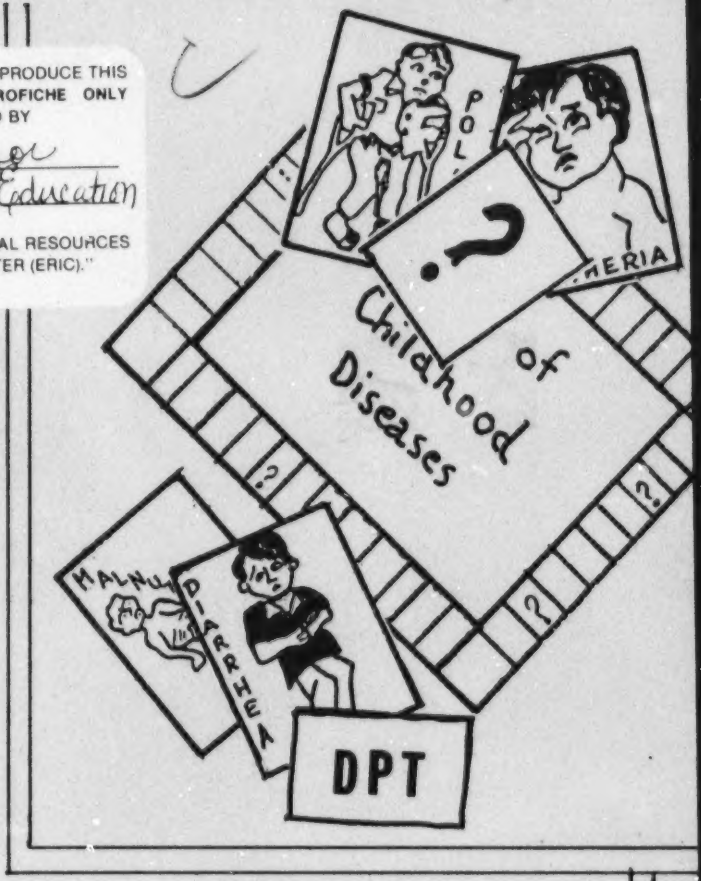

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GAME OF CHILDHOOD DISEASES

NOTE WRITTEN BY: FRANK BIALOSIEWICZ and JULIE BURNS

RC014327

SUMMARY: This note describes a simulation board game which addresses the health problems of young children in Third World settings, specifically common infectious diseases, parasitism, and the interplay between these and malnutrition and hygiene.

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17. PARTICIPATORY COMMUNICATION IN NONFORMAL EDUCATION: describes the use of simple processing techniques for information sharing, formative evaluation and staff communication.
18. BINTANG ANDA: A GAME PROCESS FOR COMMUNITY DEVELOPMENT: describes an integrated community development approach based on the use of simulation games.
19. USING CONSULTANTS FOR MATERIALS DEVELOPMENT: describes an approach to selecting and utilizing short-term consultants for materials development.
20. DESIGNING AND USING SIMULATIONS FOR TRAINING: outlines the steps involved in designing and conducting simulations and presents two simulations in detail.
21. Q-SORT AS A NEEDS ASSESSMENT TECHNIQUE: describes how a research technique can be adapted for needs assessment in nonformal education.
22. THE LEARNING FUND: INCOME GENERATION THROUGH NFE: describes a program which combines educational and income generation activities through learning groups.

TECHNICAL NOTES

This note is one of two Technical Notes based on the experience of staff working in the Women-to-Women Project in Ciudad Vieja, Guatemala in collaboration with local representatives of the Ministry of Public Health. Funding for this project was provided by the Third World Division of Ross Laboratories of Columbus, Ohio. In the interest of disseminating information about successful, innovative methods or materials for adult and nonformal education, the Center for International Education has included these publications in the Technical Notes series.

Both notes focus on simulation board games developed as part of the Maternal-Child Health Program of the Ciudad Vieja Health Center. They present a summary of experience which may be of value to others struggling with similar problems in different settings. The notes represent work in progress and are not intended in any way to be evaluations, although care is taken to present whatever evaluation information is available on the effectiveness of the methods discussed. They are intended to be self-contained so that practitioners can immediately adapt them for use in their own settings.

We encourage readers to share their reactions and particularly relevant, similar experiences which they may have had in other settings. Technical Notes are available from:

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GAME OF CHILDHOOD DISEASES

Introduction

The Game of Childhood Diseases is a board game which simulates health problems of young children in Third World settings. It was designed in response to a need for a mechanism to create awareness of childhood diseases among rural Guatemalan women. The game was particularly appropriate for this setting because it allowed women's groups to spontaneously participate in role playing and group problem solving, which in turn facilitated critical awareness of their children's health problems. Players acquired knowledge and skills necessary for taking individual and collective action to improve and to safeguard their children's health. They learned to recognize signs and symptoms of the most common diseases, to identify factors or conditions which cause the diseases, and to become familiar with possible strategies for treatment and prevention. The game described in this note is presented as a model for readers who are encouraged to create their own versions which more accurately reflect local disease patterns, cultural perceptions and practices, resources and constraints.

Setting

The game was developed at a government health center serving the town of Ciudad Vieja and the surrounding region. Permanent staff at the health center consisted of two auxiliary nurses and a rural health technician. These and other short-term staff provided outpatient services and referrals and organized educational activities for learning groups associated with health center programs. Local staff were also expected to promote programs of the Ministry of Public Health which included the yearly Vaccination Campaign, the Prenatal Health Program, the Healthy Child Program, and others. Women-to-Women Project staff helped local health workers perform their educational roles more creatively and effectively. The Game of Childhood Diseases was the result of participatory effort between Project and local staff to support the Vaccination Campaign.

Project and health center staff worked primarily with two learning groups: a mothers group and a group of traditional midwives from the

district. Participants of the mothers group who were receiving food subsidies were required to take part in educational programs at the health center. These programs consisted largely of speakers invited to lecture on topics such as nutrition, hygiene, and vaccinations. Not surprisingly, motivation was low and attendance was poor. Traditional midwives were strongly urged to attend the in-service sessions, but they, too, showed little interest in the programs. Generally, an inordinate amount of time was spent telling midwives what they did wrong or what they should not do. There were few opportunities for active participation, discussion, and interaction. There was little analysis of the causes of poor health and diseases, and subsequently, little awareness of alternatives other than paternalistic supplementary food distribution programs.

Given these difficulties, Project staff sought to create an environment more conducive to learning. An informal needs assessment was carried out with each group. Frank discussions enabled staff to empathize with many of the participants' problems. Since many problems were political, they were impossible to resolve; yet, better understanding of the constraints to which each side was subjected resulted. Learner needs and interests guided subsequent learning activities. The Game of Childhood Diseases was one way of learning about participant needs.

Game Description

The original version of the game, the Game of Vaccinations, was developed in response to an expressed need of health center staff for learning materials and techniques that would promote the Vaccination Campaign. That version concentrated on those diseases for which vaccines were available through the Ministry of Public Health. The picture of reality presented in the game, however, was limited and distorted because it did not give adequate attention to interaction between those diseases and malnutrition and diarrhea. The deficiency was corrected in subsequent versions of the game, and the name was changed to Game of Childhood Diseases in order to reflect the changed emphasis. The final version of the game is described in detail below:

Educational Objectives

Participants will be able to:

ACKNOWLEDGMENTS

The authors wish to acknowledge contributions of the staff of Ciudad Vieja Health Center, particularly Rural Health Technician Edgar Izaguire de Leon and Auxiliary Nurses Fransisca de Olayo and Elsie Gonzalez, whose husband fell victim to the political violence, which eventually forced the project to come to a premature end. In spite of the stresses associated with life in a country undergoing revolutionary turmoil and in spite of other time and energy-consuming activities, these individuals showed willingness to learn and to experiment, which greatly facilitated development of the games. Also, little would have been accomplished without the dedication and participation of members of the Ciudad Vieja Mothers Group, traditional birth attendants of the region, and Mother-Child health educator trainees. The authors hope that this period of violence and repression in Guatemala will soon end so that all Guatemalans can grow strong and healthy in a more free and just society.

Frank Bialosiewicz
Julie Burns
Amherst, Massachusetts
February 15, 1983

1. Identify signs and symptoms of those diseases for which vaccines are available: measles, whooping cough, tetanus, diptheria, polio, and tuberculosis.

2. Describe the consequences which these diseases have for young children and other family members in terms of physiological effects, expenses, loss of work or school days, etc.

3. Identify the corresponding vaccine for each disease, its schedule, possible physical reactions to the vaccine and their own treatment of these reactions.

4. Describe how malnutrition weakens young children and makes them more susceptible to infectious or contagious diseases which in some cases leads to death.

5. Describe an adequate diet for young children, taking into account differences due to age.

6. Identify conditions which give rise to gastro-intestinal diseases (referred to as diarrhea) and describe how these diseases also weaken children and increase susceptibility to infection.

7. Describe measures that can be taken to reduce potential sources of infection which cause gastro-intestinal disorders.

8. Describe measures for treating dehydration.

Game Components*

--1 game board

--1 pack of LUCK cards

--6 color-coded RESOURCE cards for each of the diseases

--6 different markers

--1 die or spinner

--1 content outline

The game board is rectangular in shape and contains different illustrated spaces:

--START space.

--HEALTH POST spaces illustrated with a building.

--LUCK spaces identifield by a question mark.

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*See Appendix for game components used in Guatemala.

--DISEASE spaces illustrated with a characteristic sign or sympton, labeled with name of disease in question, and color coded to correspond with RESOURCE cards.

--Blank spaces between all other spaces.

LUCK cards correspond to LUCK spaces on the game board. Each LUCK card contains a written question or problem related to the diseases on the game board. There is no single correct sequence for ordering the cards, though some questions or problems logically follow or precede others. Educators may alter the sequence or add or remove cards according to the needs, interests, and abilities of the learning group. Examples of questions on LUCK cards are:

Why do you think it is important to vaccinate children?

Your child is one year old. What are you feeding her?

Some women think it is good to use a bottle to feed their babies. Others think that mother's milk is best. What do you think?

RESOURCE cards represent a specific vaccine in the case of the infectious and contagious diseases, and general preventive measures in the case of malnutrition and diarrhea. They correspond to DISEASE spaces on the game board and are color coded:

--Good Nutrition (orange) for Malnutrition

--Good Hygiene (yellow) for Diarrhea

--Measles Vaccine (red) for Measles

--DPT (green) for Whooping Cough, Tetanus, and Diptheria

--Polio Vaccine (blue) for Polio

--BCG (purple) for Tuberculosis

Vaccination RESOURCE cards may carry the vaccination schedule on the reverse side. If color coding is not possible, different patterns may be used instead in the margins around the DISEASE spaces and RESOURCE cards.

The die or spinner is the mechanism by which players move their markers around the game board, while the six markers identify players during the course of the game. A number of items are suitable including coins of different denominations, buttons of different size or color, pieces of colored paper or plastic, or even different sizes of stones. The only requirement is that they must be easily distinguishable.

A content outline was drawn up for the game to provide basic information to educators and to allow them to focus on specific content areas.

In addition to using the content outline for the game, Educators may want to organize part of the material into short lectures for the learning group. Demonstrations, too, may be helpful to illustrate other points such as the preparation of oral rehydration solution. Other visual aids may clarify the signs and symptoms of the diseases in question. The content areas were determined by local conditions and needs. Readers should adapt the content for their specific situations.

Guidelines for Playing

Although educators who facilitated game playing directed each group according to its own needs, they nevertheless were guided by the basic rules of the game. These rules were viewed as guidelines, however, and were modified as necessary. The rules of the game should never take precedence over meeting educational needs of participants. Guidelines for playing, which may be adapted or changed as needed, are listed below:

1. Place the game board on a table around which six players can sit comfortably. Other individuals who are present may sit or stand around the group and observe.

2. Explain illustrated spaces on the game board making sure players understand what each illustration represents.

3. Place RESOURCE cards on the game board in the spaces provided.

4. Place LUCK cards on the game board in the space provided. If any participants are illiterate, ask someone from the group of players or observers to read the LUCK cards aloud as necessary.

5. Have players select markers and place them on the START space.

6. Introduce the game to the players, giving only as much information as they need to begin to play. Provide further information as necessary. Inform the group that during this game they will deal with many common illnesses of childhood. They will pretend for a while that what happens in the game will be actually happening to them. Through their play they will identify the signs and symptoms of the illnesses, their consequences, their treatment, and their prevention.

7. Explain that players will throw in turn the die or spin the spinner and move their markers the number of spaces indicated. If participants have had no experience with game boards, demonstrate this. Any player may begin, followed in turn by those sitting to the right or left. (This may be culturally determined.)

8. If players land on blank spaces, nothing happens. They simply remain in the space until the next turn.

9. If players land on HEALTH POST spaces, they have an opportunity to protect the family from a common childhood illness. Ask them to look over the various preventive measures and choose one they feel is important. If necessary, assist players with questions such as:

   Which measure do you think is important to take first? Against which illness will you first seek protection for your family?

   a. If a vaccine is chosen, ask why it was chosen and what the recommended schedule is. If there is no response, ask another player to provide the schedule and then point it out on the back of the RESOURCE card. Tell players to keep cards they select. The cards will protect their families from the illnesses in question.

   b. If the Good Nutrition card is chosen, ask how old the youngest child is and what the child eats. Have other players and observers contribute opinions. Allow spontaneous discussion on the subject of nutrition.

   c. If the Good Hygiene card is chosen, have players describe one or two measures that can be taken to reduce sources of infection which cause diarrhea. Expand upon these points by asking quesions like the following:

      Do people in your community take these measures? Why not?
      What do they do with their garbage?
      How do they store food and eating and cooking utensils?
      How do mothers handle and store diapers?
      Where do family members defecate?

10. If players land on LUCK spaces, they (or others assigned the task) select the top card from the pile and read it aloud. If necessary, rephrase the question in simpler or more appropriate language. Give players a chance to answer questions as best as they can. Then invite other players or observers to contribute their opinions. To stimulate further discussion, ask questions concerning related issues, referring to the local situation. After the discussion, LUCK cards are returned to the bottom of the pile.

11. If players land on DISEASE spaces, one of two things may happen:

   a. If players are "protected," that is, if they previously selected the corresponding RESOURCE card, announce to the group that although there has been an outbreak of x desease in the community or although the condition (malnutrition or diarrhea) is common in the community, the family has been protected because necessary measures to prevent the disease or condition were taken. Congratulate players for foresight and good judgment.

   b. If players are "unprotected," that is, if they do not have the corresponding RESOURCE card, tell them that one or more of their children has come down with the disease or condition in question.

In this case, markers are taken back to the nearest HEALTH POST space where players role play with the educator or some other person who takes on the role of a nurse. The following is an example of a role play:

Nurse: Oh, Mrs. Gomez. What brings you to the Health Post today? Is there something the matter with little Maria?

Mrs. Gomez: Yes, I think she has the measles.

Nurse: What makes you think so? What have you noticed that is different about her?

Mrs. Gomez: She has some fever. Look at the red spots over her face and neck. They seem to be spreading over her body.

Nurse: I think you are right. It is unfortunate that you did not have her vaccinated during the last campaign. You know that measles outbreaks are common in our area.

Mrs. Gomez: Perhaps you are right. It is not easy for me to attend to such matters. We live so far away from the Health Post. And there is so much work to do around the house and in the fields. My husband isn't much of a help either. He indulges the children. And he complains that he doesn't like being kept up all night with their crying after they have been vaccinated. You know that sometimes they get sick with the vaccinations.

Nurse: I know that it isn't easy for you. Perhaps your neighbors can give you some advice about how to handle your husband on this matter. As far as the fever goes, who knows how we can control the fever which sometimes comes after the vaccination?

Another player: Aspirin

Another player: Cold compresses.

Nurse: Thank you. Yes, the fever is a problem, but it's normal. You know that the body is being forced to build up a resistance to the kind of germs which cause measles. Healthy children won't be harmed by a bout with fever.

Now, Mrs. Gomez. You will have to take some special measures now that Maria has come down with the measles. Be sure that she doesn't get chilled. Feed her well and make sure she gets plenty of liquids. And do your best to keep her eating utensils and bedding away from the rest of the children. Measles are highly contagious and if you are not extra careful, you really will have a handful of problems.

(She hands the player a RESOURCE card for measles.)

This card means that you have learned your lesson and have had your children vaccinated for measles. They will be protected from further outbreaks.

Mrs. Gomez: Thank you.

12. Have players circle the game board once or twice, depending on interest and time available. When players return to START, they may give their places to observers. In this case, players leaving the game return all RESOURCE cards.

13. Follow the game with a group discussion to evaluate the experience. Use this time to emphasize important points. Questions such as the following may be helpful:

What did you like best about this game? Why?
What didn't you like? Why not?
Was there anything that was confusing to you?
What did the game help you to learn?
Do you think the game presents a realistic picture of life in your community? Do children in your community have these health problems?
Do you think that the treatments and preventive measures discussed are desirable? Are they possible here? What are some obstacles?

Skills for Improving Game Effectiveness

Whether or not educational objectives can be met depends largely on the skills of the educators using the game. They must have knowledge and experience in health and nutrition in order to provide accurate information and to clarify problems and issues during the game. Equally important, they must know how to maximize participation and interaction among group members. Rather than "teach," they "facilitate" learning by hesitating to answer questions immediately and by drawing the answers from players themselves.

Role-playing skills are also helpful. Role playing during a game allows learners to draw from their own experience so that others may learn from that experience. Role playing also helps learners internalize and personalize the knowledge and skills that are necessary to achieve their goals, in this case, the health and well-being of their young children. Skilled educators can provide learners with experience in role playing. Earlier, readers were presented with a sample dialogue which occurred during a game session. There are many variations because role plays are spontaneous. The authors observed that rural Guatemalans did not have serious problems engaging in role playing. They were not given special training, but they learned through observation and experience.

As players become familiar with the game content and process, educators can implement ways to remove themselves further from the center of attention. One way they can do this is by creating new role play situations where they do not take part. For example, if players fall on DISEASE spaces visited previously by other players, instead of repeating variations of previous dialogues, they can be directed to talk to a "neighbor":

Nurse: Well, I see that Carlos is sick. Measles, too. Looks like we have an outbreak on our hands. I just had a long talk with Mrs. Gomez about this problem. Why don't you talk with her for a moment while I attend to another patient.

Mrs. Moreno: Well, my Carlos is sick with the measles. What can I do about it now?

Mrs. Gomez: You've got to keep him from getting chilled. You can keep his fever down with some aspirin and cold compresses. Keep his eating utensils and bedding separate from the others.

Mrs. Moreno: I certainly don't need all this extra work now. Keeping him separate from the rest in our poor one-room house will be almost impossible.

Nurse: I guess Mrs. Gomez has given you some good advice on caring for Carlitos. But really, the best solution is the vaccination at the right time.

In situations like the one above players are given the chance to express in their own words the points made earlier about measles. Since the game is played on several occasions, there are many opportunities for the same issues to be addressed, with variations and new information and viewpoints brought in. Progressively, educators take on a less directive role, intervening only to solicit help from other individuals in the group or to address a particular point.

Educators can help generate analysis and discussion during the game by asking the right kinds of questions. For example, when players land on LUCK spaces and have had ample opportunity to answer the questions, educators may ask other players to contribute. They might ask:

What do the rest of you think about this problem?

Is there more we can say about this problem?

Who thinks differently about this?

Is this a common problem in your community?

What do your neighbors do when they have this problem?

Do you think what they do is sufficient? If not, what else must be done?

The Women-to-Women Project staff subscribed to an approach to health education inspired by the educational philosophy of Paulo Freire. In line with this philosophy, the game and methods of presenting the game were designed to facilitate development of critical understanding of local health problems. Materials and methods are vehicles through which problems are posed for group analysis and discussion. Learning takes place largely through dialogue between educators and learners and among learners themselves. Dialogue presupposes a new relationship between educators and learners whereby all become co-learners. Educators withdraw from the center of attention and facilitate active participation of all learners in all stages of the learning process. They provide opportunities for interaction and discussion where learners draw from their own experience, knowledge, and skills and, in the process, educate others.

A major constraint on the Women-to-Women Project was the growing political violence in Guatemala. An explicitly Freirian approach to health education was dangerous since discussions inevitably lead to underlying social, political, and economic causes of poor health and disease. Because of political turmoil in Guatemala,group work was viewed with suspicion. Therefore, all health center group work was confined to the health center itself. Under the circumstances, a cautious approach was necessary in order to minimize risk to learning group participants. Game activities centered around what mothers could do given current resources and services to improve the health and well-being of their children. Nothing political was included in the game materials; yet, once trust had been established in the group, sensitive topics, e.g., maldistribution of resources, were dealt with in role-play situations and group discussions.

Game Adaptation and Construction

The Game of Childhood Diseases has a flexible format and can be adapted easily for use with different groups in a variety of situations. Besides being used with mothers, midwives, and health educators in Guatemala, the game was also adapted for poor urban women's groups in Tegucigalpa,

Honduras. Because groups have different experience, needs, and interests, educators must adapt learning materials to accommodate them. LUCK cards should be prepared with abilities and learning needs of the particular group in mind.

The game need not be restricted to the diseases and conditions shown on the game board. To emphasize other diseases, such as malaria for example, the game board can be altered accordingly. Appropriate RESOURCE cards and LUCK questions must be added or substituted, and a new content outline must be devised.

The game board and other components can be constructed at little cost. The illustrated spaces which appear in the Appendix can be copied, cut out, and pasted onto sturdy poster board. Felt-tip markers, poster paints, or crayons may be used to color the margins of the spaces and RESOURCE cards. Coating the game board and cards with clear contact paper will protect them from excessive handling. Of course, if the illustrations are culturally inappropriate, a local artist should be contracted to produce similar, simple line drawings. Ideally educators should produce their own games appropriate to the culture they are working in and based on local problems. Playing the game as presented here, however, might be a useful step toward producing a game more appropriate to the environment where it will be used. Where possible, participants should be encouraged to modify the game themselves, at first by adding LUCK cards, and later by adding whole new problems. The game thus becomes "theirs" rather than a teaching material which "belongs to" the educator.

Conclusion

An educational game, if it is truly a game, must be "playable." Although this may seem obvious, many games are not playable because of problems with content and/or structure. In some cases, the content simply does not lend itself to a game format. Many well-meaning educators, hoping to increase learner interest and motivation, have tried to incorporate the elements of a history lesson or a nutrition lesson, for example, into a favorite-game format; these materials often do not work. A game format is not suitable for all learning objectives. In other cases, the structure of the game is inordinately complex and convoluted. Game boards are so

"busy." There are so many resources to keep track of and the variety of roles is so great that only highly educated individuals can understand and play the games. These problems often arise when games are conceived and developed in settings that are far away from the people for whom they are intended. Educational methods and materials cannot be pre-packaged and exported for instant use in other areas.

Because the Game of Childhood Diseases was conceived and developed in the field in response to a felt need and with the participation of national counterparts and representatives of the target population, problems with content and structure have been avoided. The game was played many times, evaluated, and modified according to suggestions of the participants and observations of Project staff. Although the original idea came from the staff, a playable version evolved only with input from players. The technical note in effect "freezes" the game in its current form, although this is not the intention of the authors. No educational game should be considered final or complete. To be effective, it must be adapted to each new situation where it is introduced. The authors intend that this game will provide the idea from which a family of new, different, and appropriate games can emerge.

Even when the content and structure of a game make it playable, it can still be misused. A game, like any other educational method or material, can be used to manipulate people. Learners may appear to be participating and interacting, but their scope of involvement may be restricted. Educators, for example, may decide which problems or issues to incorporate into the game content. They may decide that others are too politically sensitive to handle. In addition, they may restrict the level of analysis in order to avoid discussion of the underlying causes of a problem or all ramifications of an issue. During the play, educators may also encourage the group to depend on them for correct answers or for the best solution or to look to them as the final judge of an answer or solution. This reduces the game to an appealing gimmick, a way of transferring information from teacher to student, described by Freire as "banking education."

On the other hand, educators can use the game as a vehicle for what Freire calls "problem-posing" education. The problems, issues, answers, and solutions are all subject to collective analysis by the whole group as co-learners or co-investigators, mediated by the reality (albeit a simulated

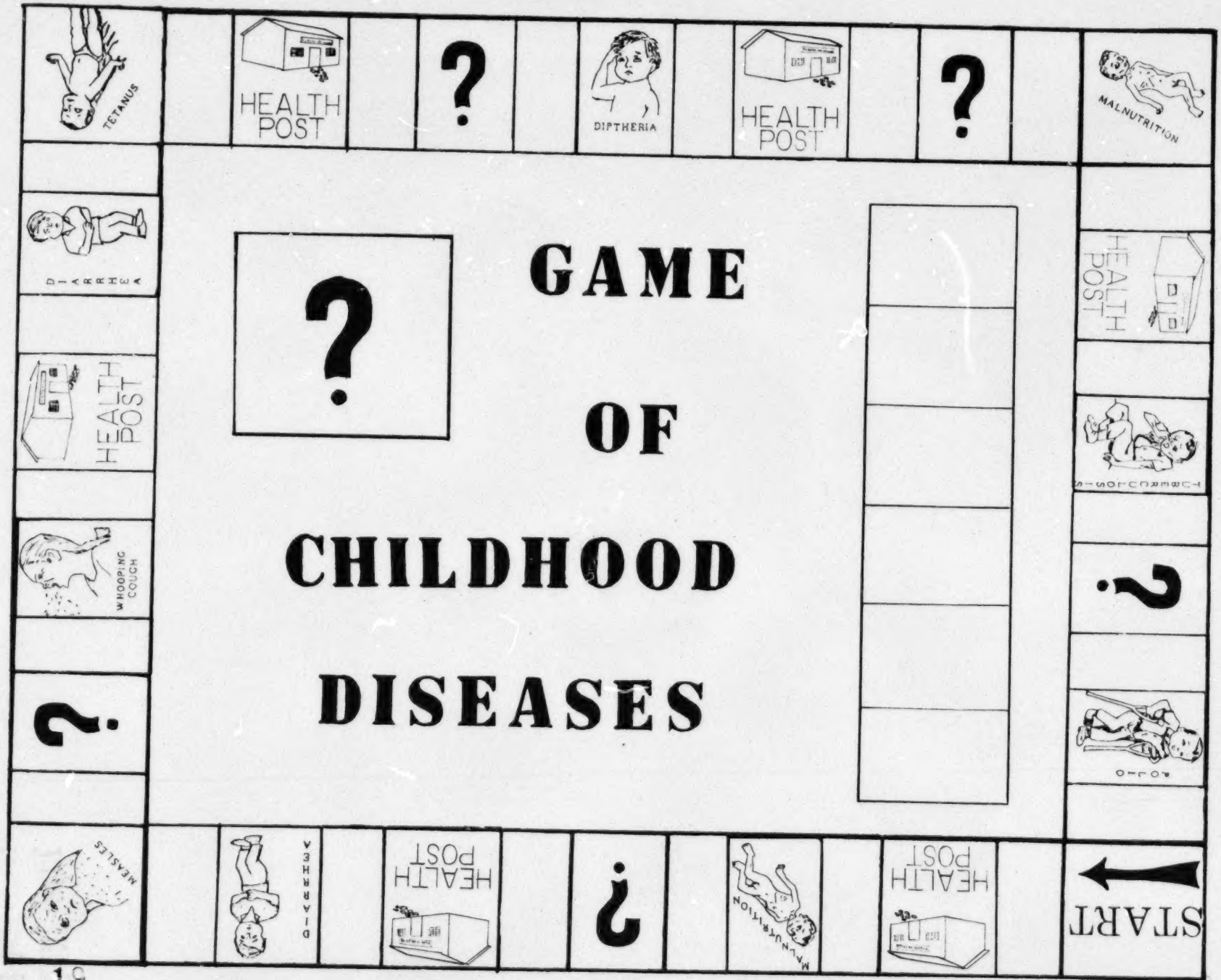
one) of an educational game. This new relationship makes special demands on educators. They refrain from taking too active a role during the game. They facilitate opportunities for others to discover information needed to clarify points or to propose solutions to a problem. They encourage participants to value their own experience, knowledge, and skills and to draw upon them so that all can contribute to the learning process. Effective educators do not impose solutions on the group. In using the Game of Childhood Diseases, effective educators do not transfer their values about the vaccines, for example, on to the players. Certainly, even among medical experts opinions and values differ. Rather, educators lead the group to a thorough analysis of the issues involved with vaccines in relation to other health conditions. Participants perhaps discover that in reality, vaccines play a minor role in assuring the health and well-being of young children. An adequate diet, clean water, and decent housing are perhaps more important and far more difficult to attain given maldistribution of resources locally and internationally.

As with any educational method or material, the successful use of this game depends very much on educators themselves, their experience, their training, their own level of awareness, and above all, the degree of their commitment to the learning group.

APPENDIX:

Game Components

GAME OF CHILDHOOD DISEASES



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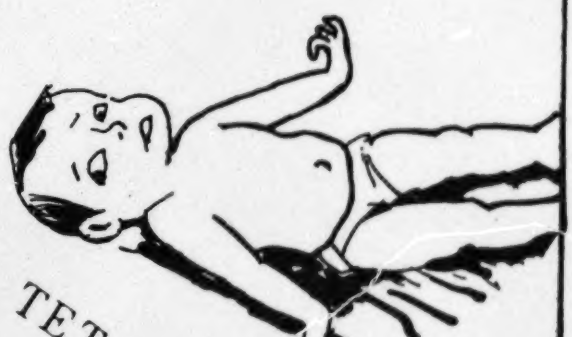
Game Board Spaces

The following illustrations may be copied, cut out and pasted onto cardboard to make a game board.

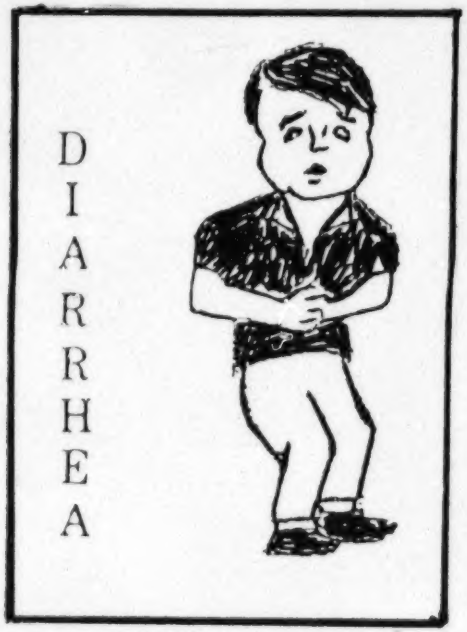
START

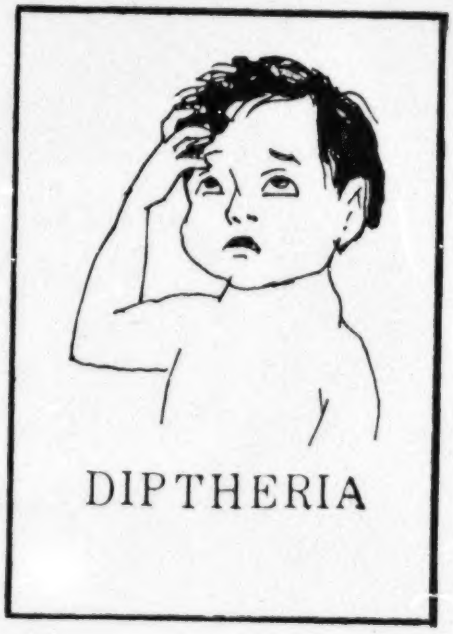
MALNUTRITION



TETANUS

MEASLES

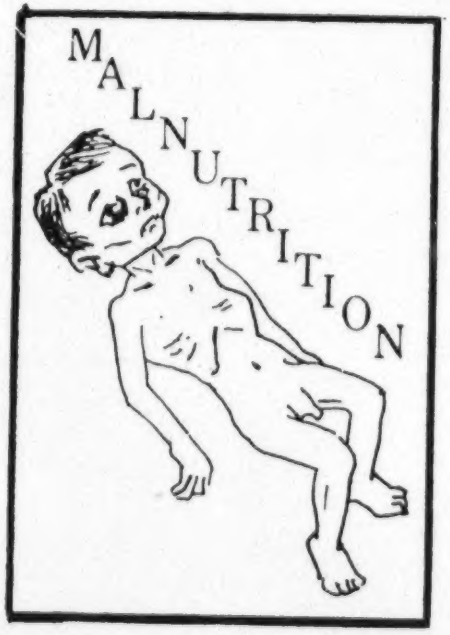

DIARRHEA


DIPTHERIA

POLIO

TUBERCULOSIS

WHOOPING
COUGH


MALNUTRITION

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DIARRHEA

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PUESTO DE SALUD
HEALTH
POST

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LUCK Cards

These were some of the questions and issues which appeared on LUCK cards for the Guatemala Project. Educators should make their own relevant questions and transfer each one to a small index card.

How can a mother tell if her child is dehydrated?

Your neighbor's child has had diarrhea for the past two days and is getting dehydrated. What advice can you give to the neighbor?

What are some things a mother can do so her child won't get diarrhea?

Some people say that drinking water should be boiled. You have doubts about the need for this, and discuss it with a neighbor.

The nurse has talked with you about the importance of hand washing before cooking and eating. What do you think you could do to encourage your family to wash their hands?

Your toddler defacates on the ground right outside the house. Some people say this is not a good practice. What do you think? What should be done about this?

What advice could you give a first time mother about the proper storage and handling of diapers?

Your husband says he doesn't want the children to get vaccinated because the reaction causes them to cry at night and keep him awake. How do you convince him that they should be vaccinated?

What can a mother do to relieve the reaction her child can get from a vaccination?

Your neighbor tells you she doesn't plan on having her children vaccinated because it's too much bother. What advice can you give her?

You are breast feeding your first baby. Ask your midwife what you can do to be sure you have lots of milk.

A neighbor asks your advice because her child is very thin and doesn't eat well. What advice do you give her?

Your baby is nine months old. What are you feeding her?

A neighbor tells you she doesn't have enough breast milk and that she is thinking of using a feeding bottle. You know that bottles are dangerous because they are hard to keep clean. What advice can you give her to increase her milk supply?

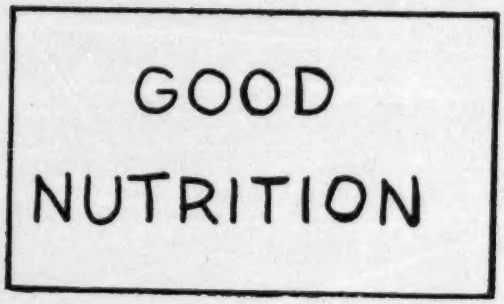
You took your baby to get weighed at the health post and the nurse told you he wasn't gaining enough weight. Talk to a neighbor to find out what you can do so your baby will gain weight.

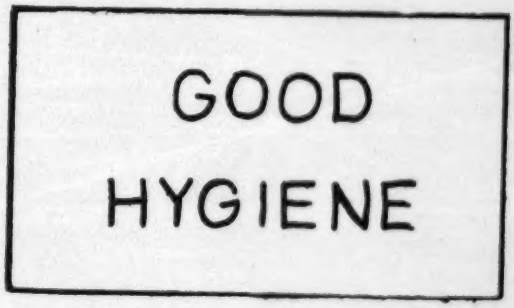
Your child is one year old. What are you feeding him?

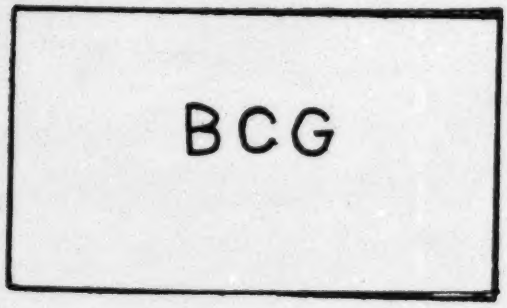
Some women think it's good to use a bottle to feed their babies. Others think breast milk is best. What do you think?

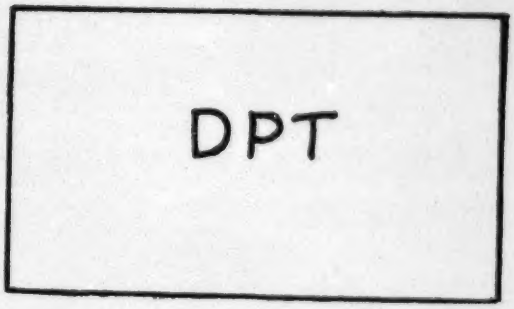
RESOURCE Cards

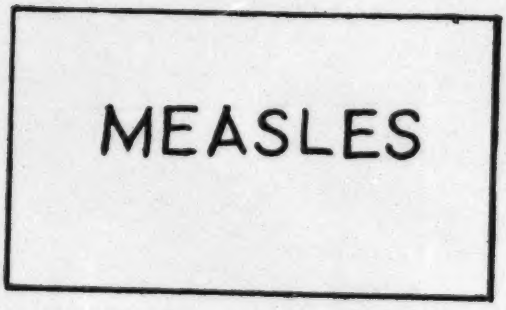
Six sets of the following RESOURCE cards should be placed on the game board.











Content Outline: Malnutrition

A. How can a mother know if her child is malnourished?

1. Children who do not eat enough protein have:

   a. swollen legs and hands.
   b. skin peeling off their legs.
   c. thin, pale, straight weak hair.
   d. fat faces.
   e. pot bellies.
   f. thin upper arms.
   g. unhappy dispositions.

2. Children who do not eat enough of any one kind of food:

   a. are very thin and underweight.
   b. have no swelling.
   c. have a face that resembles an old man's and a big head.
   d. look anxious.
   e. have arms and legs that look like sticks.

A child becomes malnourished because he does not eat enough of the right foods, or enough food of any one kind. A baby can be born malnourished if his mother did not eat enough while she was pregnant or had an illness such as malaria or parasites. A child can also become malnourished if he suffers from diseases such as diarrhea and measles.

B. What can a mother do to keep her children from becoming malnourished?

1. Before birth: She should eat as well as possible while she is pregnant, especially protein and iron-rich foods.

2. After birth: The mother should breast feed alone for the first 4-6 months and continue eating plenty of protein and drinking abundant liquids so she can produce plenty of milk. Breast feeding should continue as long as possible, preferably up to 2 years. Weaning should be done gradually.

3. Between the age of 4 and 6 months, children can be started on appropriate weaning foods made from locally available staples such as maize or beans. As the children grow from 6 months to one year, they can be gradually introduced to the family's diet in pureed or mashed form, so that by the age of one year they are sharing the family's meals.

Content Outline: Diarrhea

A. What are the signs and symptoms of diarrhea?

1. Increased frequency of stools.
2. Consistency of stools is soft or loose.
3. Bad odor of stools.
4. Color of stools may be yellow or green.

B. What are the signs and symptoms of dehydration?

1. Weakness and listlessness.
2. Sunken fontanel.
3. Sunken eyes.
4. Dry mouth.
5. Crying without tears.
6. Dry, wrinkled skin.
7. Urinating infrequently and in small amounts.

C. What can a mother do when her child has diarrhea?

1. If child is nursing, continue breast feeding.
2. Keep feeding often.
3. Feed small amounts often.
4. Give liquids to drink often and in small amounts.
5. Keep dirty diapers in a covered container and wash the same day with soap and water.

D. What can a mother do when her child is dehydrated?

1. Prepare the following solution:
   a. Boil 1 liter of water and let it cool.
   b. Add 2 tablespoons of sugar
      1/4 teaspoon (1 pinch) salt
      juice of half a lemon or orange if available
   c. Stir well.
   d. Store in clean, covered container in a cool place.
2. Give this to the child by spoon or cup as often as possible (even if he vomits it) until he begins to urinate normally.
3. This solution should not be kept for more than one day, but should be made fresh every day.

E. What can a mother do so her child won't get diarrhea?

1. A child can get diarrhea by putting something in his mouth which is contaminated (fingers, objects lying on the floor, food). This can be avoided by:
   a. Washing hands before preparing child's food or feeding him.
   b. Washing child's face and hands before feeding.

c. Keeping child's fingernails clean and short.
d. Washing fruits and vegetables before eating them.
e. Washing child's dishes and utensils well with soap and water and keeping them covered.
f. Boiling drinking water and storing it in a clean, covered container.
g. Covering cooked food to protect it from flies and dust.
h. Rinsing breasts with boiled water before nursing.

2. A child can also get diarrhea from eating food which is improperly cooked, or from eating foods his body is not yet used to. To avoid this:

a. Make sure a child's food is thoroughly cooked.
b. Indigestible foods such as legumes should be ground or pureed.
c. When a child is beginning to eat new foods, feed in small amounts. Introduce only one new food at a time.

F. What else can a family do to reduce potential sources of contamination which cause diarrhea?

1. The infant should always wear diapers.
2. Dirty diapers should be kept in a covered container apart from other clothes.
3. Dirty diapers should be washed daily with soap and water and dried in the sun if possible.
4. Toddlers should be taught to use a pot for defecating. The contents should be emptied into a latrine or buried.
5. Older children and adults should use a latrine. If there is no latrine, they should defecate away from the house and water sources.
6. Hands should be washed with soap and water after defecating or changing a soiled diaper.
7. Garbage should be burned or buried.

Content Outline: Immunizations

I. Many diseases which are common among children can be prevented by immunizations.

A. Why is it important to protect children against these diseases?

1. The illness can be long; the child may feel very sick and cause a lot of problems for the entire family.
2. The family will have to spend money on medicine and doctors.
3. The child may remain weak and malnourished as a result of the disease.
4. These diseases may cripple a child for life.
5. These diseases can be fatal.

B. Why don't some mothers vaccinate their children?

1. Some mothers are afraid of the reaction the child may get from the vaccination.
2. Some mothers think the vaccination is unimportant or unnecessary.
3. Others feel it is too much trouble to be taking the children to the health post for vaccinations, especially if they have to walk a long way to get there.
4. Others feel sorry for their children when they see them crying after getting a shot.

C. What advice can we give to mothers who don't vaccinate their children for these reasons?

1. The child's reaction to the shot, which can include discomfort, irritability, fever and localized pain where the shot was given, can be relieved by giving the child aspirin according to the health worker's indications.
2. A mother can also ask herself what is best for her child--to put up with one or two days of slight discomfort, or to be seriously ill for several weeks.
3. The same can be said to mothers who do not vaccinate their children because they feel sorry for them when they cry. Wouldn't they feel sorrier to see them weak and sad from a long illness?
4. Mothers who feel it is too much bother to be making trips back and forth to the health post can be reminded that it is much preferable to be taking healthy children to be vaccinated, than to have to make the same trips to the health post carrying a child who is dying of tetanus or who is paralyzed with polio.

II. Signs and symptoms of contagious diseases which can be prevented by immunization.

A. Signs and symptoms of polio

1. Symptoms associated with flu

a. Fever
b. Increased mucus

c. Body ache
d. Headache, sore throat, sore neck

2. There may be diarrhea
3. Backache, stomachache, leg-ache
4. Difficult moving
5. Weakness and paralysis of the legs

Consequences: The child will not be able to have a normal life; he will be limited in play, at school and at work. He will have to use crutches or a wheelchair; there will be medical expenses and stress and upheaval for the whole family.

B. Signs and symptoms of measles

1. Fever, cough and mucus
2. Conjunctivitis, that is, reddening of the eyes and difficulty seeing in bright light.
3. Appearance of a red rash, first on the face and behind the ears, and later on the whole body. This rash usually itches.

Consequences: Aside from medical expenses and lost days of study and work, this disease may be complicated by pneumonia, which can be fatal if the child is weak or malnourished.

C. Signs and symptoms of whooping cough

1. Fever
2. Loss of appetite (the child stops eating)
3. Nasal secretion
4. Dry and convulsive cough
5. Suffocation or lack of air
6. Convulsions

Consequences: Aside from medical expenses, this disease can provoke or worsen malnourishment and can be fatal.

D. Signs and symptoms of tuberculosis

1. Cough
2. Bodily discomfort
3. Fatigue
4. Lack of appetite
5. Regular weight loss
6. Low fever, almost always in the afternoon

Consequences: In addition to medical expenses, weakness and susceptibility to other diseases, the rest of the family can catch tuberculosis.

E. Signs and symptoms of diptheria

1. Fever
2. Headache and sore throat
3. A membrane forms inside the throat
4. The neck becomes swollen, and there is difficulty swallowing

Consequences: This disease is fatal unless treated in time.

F. Signs and symptoms of tetanus

1. In newborns: tetanus generally appears between three and ten days after birth.

   a. The child begins crying and does not stop
   b. The umbilical cord is infected or smells bad
   c. The child cannot nurse

2. Afterwards, the same symptoms develop as in adults or older children who have an infected wound.

   a. Bodily discomfort
   b. Difficulty swallowing
   c. Stiff jaw; then the neck and other muscles become stiff
   d. Convulsions

Consequences: Tetanus is a very dangerous disease which can be fatal. A pregnant woman who is vaccinated against tetanus protects her newborn from this disease.

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